In the specification

[0020] The radial modulus of elasticity can be represented with the formula $E_r = E_r(\sigma_r)$, i.e. E_r depends on the radial stress σ_r. This dependency can be described with a 1st to 3rd order polynomial. Elastic parameters which are required as initial guesses can be for example the coefficients of this polynomial.

[0022] FIG. 2 illustrates the measurement ~~conducted after the slitter winder~~ performed on a paper roll in a position after a slitter winder. The measurement is conducted in the measurement station, for example after a WinBelt® winder or a WinRoll™ winder. The measurement station can be placed in a location to which the rolls are transferred next from the winder, for example at the location of the supporting base following the winding position, onto which base the roll is rolled from the top of the carrier drum and stopped.

[0023] FIG. 2 shows a first principle of the method according to the invention, in which a customer roll R wound around a core in the slitter winder is pressed from above by means of a press member 1 positioned at the end of a pivotal arm 2. The arm is arranged pivotable in the vertical plane, and it is attached to a suitable frame structure. The arm 2 is pressed down and at the same time the press member 1 is pressed against the roll R with a force device [[F]] 3 arranged between the frame and the arm 2. The angular position of the ~~loading arm~~ pivotal arm 2 (angle θ) is measured by means of an angular sensor 4. By means of the angle and the force produced by the force device 3 it is possible to determine the depression of the press member 1 as a function of the radial force produced by the press member 1.